and other penalties.

* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:10:21 ON 24 JUN 2009

=> file reg

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.22	0.22

FILE 'REGISTRY' ENTERED AT 10:10:40 ON 24 JUN 2009
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 22 JUN 2009 HIGHEST RN 1159446-15-7
DICTIONARY FILE UPDATES: 22 JUN 2009 HIGHEST RN 1159446-15-7

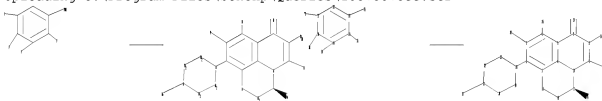New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\Stnexp\Queries\10578078cc.str

chain nodes :
14 15 16 17 24 25 26 35 36 37 38 39
ring nodes :

```
1  2  3  4  5  6  7  8  9  10  11  12  13  18  19  20  21  22  23  29  30  31  32
33  34
chain bonds :
2-18  3-24  4-26  7-14  8-15  9-25  11-16  17-21  29-39  30-38  31-37  33-35  34-36

ring bonds :
1-2  1-6  1-13  2-3  3-4  4-5  5-6  5-7  6-10  7-8  8-9  9-10  10-11  11-12  12-13
18-19  18-23  19-20  20-21  21-22  22-23  29-30  29-34  30-31  31-32  32-33  33-34
exact/norm bonds :
1-13  2-18  5-7  6-10  7-8  7-14  8-9  9-10  10-11  11-12  12-13  18-19  18-23
19-20  20-21  21-22  22-23
exact bonds :
3-24  4-26  8-15  9-25  11-16  17-21  29-39  30-38  31-37  33-35  34-36
normalized bonds :
1-2  1-6  2-3  3-4  4-5  5-6  29-30  29-34  30-31  31-32  32-33  33-34
```

```
Match level :
1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom  10:Atom
11:Atom  12:Atom  13:Atom  14:CLASS  15:CLASS  16:CLASS  17:CLASS  18:Atom  19:Atom
 20:Atom  21:Atom  22:Atom  23:Atom  24:CLASS  25:CLASS  26:CLASS  29:CLASS
30:Atom  31:Atom  32:Atom  33:Atom  34:Atom  35:CLASS  36:CLASS  37:CLASS  38:CLASS
 39:CLASS
fragments assigned product role:
containing 1
fragments assigned reactant/reagent role:
containing 29
```

Stereo Bonds:

16-11 (Single Wedge).

Stereo Chiral Centers:

11   (Parity=Don't Care)

Stereo RSS Sets:

Type=Relative (Default). 1 Nodes= 11

L1   STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1   STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

```
=> file casreact
COST IN U.S. DOLLARS                    SINCE FILE      TOTAL
                                          ENTRY       SESSION
FULL ESTIMATED COST                        0.48         0.70
```

```
FILE 'CASREACT' ENTERED AT 10:11:11 ON 24 JUN 2009
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FILE CONTENT:1840 - 21 Jun 2009 VOL 150 ISS 26

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*************************************************************
*                                                           *
*     CASREACT now has more than 16.5 million reactions      *
*                                                           *
*************************************************************

CASREACT contains reactions from CAS and from: ZIC/VINITI database
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This file contains CAS Registry Numbers for easy and accurate substance
identification.

=> s l1
SAMPLE SEARCH INITIATED 10:11:16 FILE 'CASREACT'
SCREENING COMPLETE -       0 REACTIONS TO VERIFY FROM       0 DOCUMENTS

100.0% DONE       0 VERIFIED       0 HIT RXNS                    0 DOCS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED VERIFICATIONS:        0 TO       0
PROJECTED ANSWERS:              0 TO       0

L2          0 SEA SSS SAM L1 (    0 REACTIONS)

=> s l1 sss full
FULL SEARCH INITIATED 10:11:23 FILE 'CASREACT'
SCREENING COMPLETE -     115 REACTIONS TO VERIFY FROM     10 DOCUMENTS

100.0% DONE     115 VERIFIED       8 HIT RXNS                    3 DOCS
SEARCH TIME: 00.00.02

L3          3 SEA SSS FUL L1 (    8 REACTIONS)

=> d ibib abs fhit tot
```

L3   ANSWER 1 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 144:468925 CASREACT
TITLE: Synthetic process for the preparation of levofloxacin
              hemihydrate from levofloxacin
INVENTOR(S): Rao, Davuluri Ramenbar; Dwivedi, Shriprakash Dhar;
              Sreenivasulu, Panngula; Sahu, Arabinda;
Trimadhachari,
              Gamala Nagar Elisa; Surapaneni Sasi
PATENT ASSIGNEE(S): Neuland Laboratories Ltd., India
SOURCE: PCT Int. Appl., 31 pp.
              CODEN: PIXXD2
DOCUMENT TYPE;   Patent
LANGUAGE;   English
PATENT ACC. NUM. COUNT: 1
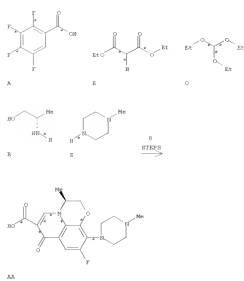PATENT INFORMATION:

    PATENT NO.   KIND DATE   APPLICATION NO. DATE
    --------------- ---- ---------- --------------- ----------
    WO 2006048009   A1   20060511   WO 2004-IN743   20041108
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
            CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
            NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
            TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
            IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG,
            CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE,
            LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ,
            MD, RU, TJ, TM
    US 2007024958   A1   20071018   US 2004-579078   20040811
    EP 1805637   A1   20070725   EP 2004-806742   20041108
        R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
            IS, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
PRIORITY APPLN. INFO.:   WO 2004-IN743   20041108

AB   A process for preparation of Levofloxacin hemihydrate, having single
individual
     impurity not more than 0.3% and free from particulate matter and from the
     other enantiomer (R-form), is described which comprises: dissolving
     levofloxacin tech. grade in an aqueous alkaline solution; treating the
solution with
     activated carbon at room temperature; removing the undissolved
particulate
     matter by filtration; bringing the pH of the aqueous alkaline
levofloxacin solution
     to neutral using dilute mineral acid; removing the precipitated
particulate matter
     by filtration; acidifying the resulting solution; treating the acidified
     solution with activated carbon at room temperature; filtering the
undissolved
     particulate matter by filtration; neutralizing the acidic solution;
filtering
     again to remove any particulate matter present; and extracting the
resulting
     product with a chlorinated solvent (e.g., Cl2CH2) and concentrating
under vacuum

L3   ANSWER 1 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN   (Continued)
        PRO R 94695-48-4
        RGT B 94695-48-4
        SOL 68-12-2 DMF
        CON SUBSTAGE(1): room temperature -> 90 deg C
             SUBSTAGE(2) 6 - 8 hours

RX(2)   RCT E 105-53-3

           STAGE(1)
             SOL 64-17-5 EtOH, 108-88-3 PhMe
             CON 20 minutes, room temperature
           STAGE(2)
             RGT G 7439-95-4 Mg
             CAT 67-66-3 CHCl3
             SOL 64-17-5 EtOH
             CON SUBSTAGE(1): room temperature
                  SUBSTAGE(2) 30 minutes, room temperature
                  SUBSTAGE(3) 3 - 4 hours, 70 - 90 deg C
                  SUBSTAGE(4) 2 hours, 70 - 90 deg C
                  SUBSTAGE(5) 90 deg C -> 55 deg C

           STAGE(3)
             RCT S 94695-48-4
             SOL 109-99-9 THF, 108-88-3 PhMe
             CON SUBSTAGE(1) 70 - 35 deg C
                  SUBSTAGE(2) 35 deg C -> 5 deg C
                  SUBSTAGE(4) - 2 hour, 0 - 5 deg C
                  SUBSTAGE(5) 30 minutes, 0 - 5 deg C
                  SUBSTAGE(6) 5 deg C -> 35 deg C
                  SUBSTAGE(7) 30 minutes, 20 - 25 deg C

        PRO F 94695-49-5

RX(3)   RCT F 94695-49-5
        RGT M 104-15-4 TsOH
        PRO L 94695-50-8
        SOL 7732-18-5 Water
        CON 3 hours, 90 - 90 deg C

RX(4)   RCT L 94695-50-8, O 122-51-0
        PRO P 94714-58-0
        SOL 108-24-7 Ac2O
        CON SUBSTAGE(1): room temperature -> 125 deg C
             SUBSTAGE(2) 4 hours, 120 - 125 deg C

RX(5)   RCT P 94714-58-0, R 2749-11-3
        PRO S 130548-02-2
        SOL 75-09-2 Cl2CH2
        CON SUBSTAGE(1) 30 - 35 deg C
             SUBSTAGE(2) 35 deg C -> 5 deg C
             SUBSTAGE(3) - 2 hour, 0 - 5 deg C
             SUBSTAGE(4) 5 deg C -> 35 deg C
             SUBSTAGE(5) 30 - 35 deg C

RX(6)   RCT S 130548-02-2
        RGT V 584-09-7 KClO3
        PRO U 106939-34-8
        SOL 68-12-2 DMF

L3   ANSWER 1 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN   (Continued)
using aq. THF or as an admixt. with other org. solvents to get highly pure
levofloxacin hemihydrate having a single individual impurity which is
<0.3% and is free from particulate matter and from the other enantiomer
(R-form).

RX(36) OF 36 COMPOSED OF RX(1), RX(2), RX(7), RX(14), RX(5), RX(6), RX(7);
RX(8)
RX(36)   A + R + O + R + S ---> AA

RX(1)   RCT A 1201-31-6
        RGT C 7719-09-7 POCl2

L3   ANSWER 1 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN   (Continued)
        CON SUBSTAGE(1) 120 deg C
             SUBSTAGE(2) 2 hours, 120 deg C
             SUBSTAGE(3) 30 minutes

RX(7)   RCT U 106939-34-8
        RGT X 7647-01-0 HCl
        PRO W 100906-89-8
        SOL 7732-18-5 Water, 64-19-7 AcOH
        CON SUBSTAGE(1) room temperature -> 80 deg C
             SUBSTAGE(2) 6 hours, 75 - 80 deg C
             SUBSTAGE(3) 80 deg C -> 20 deg C
             SUBSTAGE(4) 1 hour, 15 - 20 deg C

RX(8)   RCT W 100906-89-8, E 109-01-3
        RGT AB 110-86-1 Pyridine
        PRO AA 100906-85-4
        SOL 110-86-1 Pyridine
        CON 10 hours, room temperature -> 120 deg C
REFERENCE COUNT: 3   THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
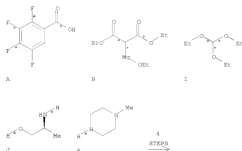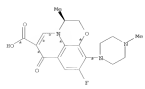FORMAT   RECORD. ALL CITATIONS AVAILABLE IN THE RE

L3   ANSWER 2 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 135:107303   CASREACT
TITLE: Studies on stereospecific synthesis of
                      (S)-(-)-ofloxacin
AUTHOR(S):   Li, Jianing; Wang, Qing; Zhang, Xing; Zhou, Sixiong
CORPORATE SOURCE: Department of Pharmaceutical Chemistry, Anhui College
                      of Traditional Chinese Medicines, Hefei, 230038,

Prep.

                      Rep. China
SOURCE: Zhongguo Yaowu Huaxue Zazhi (2000), 10(4), 276-278
                      CODEN: ZYHZEF; ISSN: 1005-0108
PUBLISHER: Zhongguo Yaowu Huaxue Zazhi Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB   (S)-(-)-Ofloxacin was synthesized from 2,3,4,5-tetrafluorobenzoic acid
by
      chlorination, condensation with di-Et malonate, partial hydrolysis,
      decarboxylation, condensation with tri-Et orthoformate, substitution with
      (S)-(+)-2-aminopropanol, cyclization, hydrolysis, and substitution with
      N-methylpiperazine. The overall yield from 2,3,4,5-tetrafluorobenzoic
      acid was 39.1%.

RX(10): OF 1G COMPOSED OF RX(1), RX(2), RX(3), RX(4)
RX(10)   A + B + I + J + R ===> B

L3   ANSWER 2 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN   (Continued)

S
YIELD 82%

RX(1)   RCT A 1201-31-6

             STAGE(1)
                 RGT D 7719-09-7 SOCl2
                 SOL 68-12-2 DMF

             STAGE(2)
                 RGT B 207746-86-9
                 SOL 108-88-3 PhMe

             STAGE(3)
                 RGT E 104-15-4 TsOH
                 SOL 7732-18-5 Water

             PRO C 94695-50-8

RX(2)   RCT I 122-51-0, C 94695-50-8

             STAGE(1)
                 SOL 108-24-7 Ac2O

             STAGE(2)
                 RCT J 2749-11-3
                 SOL 75-09-2 CH2Cl2

             STAGE(3)
                 RGT L 584-08-7 K2CO3
                 SOL 68-12-2 DMF

             PRO K 106939-34-8

RX(3)   RCT K 106939-34-8
         RGT R 7647-01-0 HCl
         PRO O 100996-89-8
         SOL 64-19-7 AcOH

L3   ANSWER 2 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN   (Continued)
RX(4)   RCT R 104-01-3, O 100996-89-8
         PRO S 190996-95-4
         SOL 67-68-5 DMSO
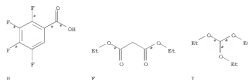
L3   ANSWER 3 OF 3   CASREACT   COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 110:75530   CASREACT
TITLE: Process for preparation of racemic and optically
                      active ofloxacin and related derivatives
INVENTOR(S):   Mitscher, Lester A.; Chu, Daniel T.
PATENT ASSIGNEE(S):   Abbott Laboratories, USA
SOURCE: U.S., 7 pp.
                      CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

     PATENT NO.   KIND   DATE   APPLICATION NO.   DATE
     ----------   ----   ----   ---------------   ----
     US 4777253   A   19881011   US 1986-858532   1986Q425
     US 4828985   A   19890502   US 1988-216063   1988Q707
PRIORITY APPLN. INFO.:   US 1986-858532   1986Q425
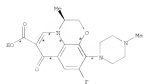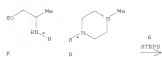OTHER SOURCE(S):   MARPAT 110:75530
GI

AB   The title compds. I [R1 = H, C1-4 alkyl, PhCH2; Z = R4R5N; R4, R5 = H,
      alkanoyl, alkanoylamido, substituted amino; R4R5N = (un)substituted
      aliphatic
      heterocyclyl] (wherein the the racemate of ofloxacin exhibits
      antibacterial properties) were prepared (-)-I (R1 = Et; Z = F)
(preparation
      given: in pyridine was added to 1-methylpiperazine, the mixture heated to
      55°, and after workup, the solid obtained was dissolved in THF and
      NaOH solution to give (-)-I (R1 = H; Z = 4-methylpiperazinyl).

RX(86): OF 102 COMPOSED OF RX(4), RX(3), RX(5), RX(6), RX(13), RX(9)
RX(86)   H + F + I + K + R ===> N

```
RX(4)     RCT   H 1001-31-6
          PRO   E 94695-49-4

RX(3)     RCT   E 94695-49-4, F 105-53-3
          PRO   G 94695-52-8

RX(5)     RCT   G 94695-50-6, I 122-51-0
          PRO   J 94714-58-6

RX(6)     RCT   J 94714-58-6, K 2749-11-3
          PRO   L 110548-02-2

RX(13)    RCT   L 110548-02-2
          PRO   P 106939-34-8
          SOL   109-99-9 THF

RX(9)     RCT   P 106939-34-8, R 109-01-3
          RGT   Q 7732-18-5 Water
          PRO   N 100986-85-4
          SOL   7732-18-5 Water

REFERENCE COUNT:        1      THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT
```